Idaho Department of Environmental Quality

Unused Underground Heating Oil Tanks

There are thousands of unused underground residential heating oil tanks in existence and many still contain heating oil. These tanks are typically 300-500 gallons in size and made of 12 gauge steel (about 1/8 inch thick). They average about 30 years before corrosion makes them prone to leaking, but the life of individual tanks varies widely depending on the properties of the surrounding soil.

A leaking unused underground residential heating oil tank - or even an empty one - can cause you problems. For instance:

- **$** You can be held liable for damage caused by contamination from your degraded tank.
- **$** Leaks can contaminate soil - yours and your neighbor's.
- **$** Leaks can contaminate ground water.
- **$** Cave-ins can happen when tanks deteriorate from corrosion.
- **$** More and more lending institutions and buyers require closure of unused heating oil tanks before they will finalize a residential sale.

Under the *Idaho Water Quality Standards and Waste Water Treatment Requirements* you may be held liable for environmental damage caused by a release of petroleum from your heating oil tank. DEQ has prepared this guidance document to help you deal with your tank.

This is only a general guidance document and does not cover everything required to properly handle USTs.

Actions of Immediate Concern

1. Find out what is in the tank.

Most underground residential tanks are easy to find. If you have trouble locating yours, try following the fuel lines from the house, or use a hand probe or metal detector.

You can find out if there is still oil in the tank by removing the fill pipe cap and "sticking" the tank (this means inserting a long stick to the bottom of the tank to see if it comes out with oil on it). Sometimes a tank will contain oil and water, or primarily water (the water will settle to the bottom, the oil will float on top). You can buy an inexpensive paste from most heating oil companies that will react with water by turning color. Put some on your stick when checking for the contents of the tank. If oil is in the tank, you may also notice an odor from the fill pipe or stick.

2. Remove any remaining oil from the tank.

DEQ strongly recommends you take at least this minimal action. It is the easiest, least costly, and most essential action for preventing, or stopping, contamination of

Do not try to work on any underground storage tank (UST) unless you are fully aware of the safety and environmental hazards. DEQ recommends that a certified UST technician be used.

soil and ground water. Secure the tank to be sure nothing can be put in it ever again.

Eventually your tank will corrode through and the oil will leak out and migrate underground. The speed and direction of migration will depend on your particular soil and ground water conditions, but it will follow the path of least resistance. That usually means it will move through disturbed soil along foundations or utility lines. By removing the oil from the tank, you prevent future contamination of your (and possibly your neighbor's) property.

Later Actions

Talk to your local fire department and building department before undertaking the following actions. Ask about permits, inspections, or other requirements that may apply. Regulations and policies vary from place to place, and may change in the future. DEQ recommends that a certified UST technician be used when conducting the following work.

The following are two options for closing unused underground residential heating oil tanks:

1. Fill the tank in place, after cleaning it.

This is a popular remedy for residential tanks - particularly if removal is not possible. But before choosing this alternative, consider the future of your property. Potential buyers or lenders may require you to remove the tank. Also, if you fill a tank in place you may not know if it leaked. It may have caused soil contamination, which may be contributing to ground water contamination. You can have the soil under the tank tested for contamination, but this is difficult when the tank is left in place and may cost more than removing the tank.

Even if you sell the property, you could be held liable at some later date. See the section entitled "Contamination."

The tank should be pumped out and the inside cleaned before it is filled. There may be sludge left in the bottom of the tank after pumping which also needs to be removed. The sludge will vary in amounts from a trace to many gallons.

Tanks are filled in place with an inert, solid material to prevent the tank from:

$ Shifting or floating up in high ground water,

$ Caving in as it deteriorates,

$ Filling with vapors,

$ Being used in the future.

Inert materials such as sand, gravel, foam, or a weak cement slurry are used to fill tanks. Each type of fill has advantages and disadvantages. Check them out before deciding which is right for your situation.

Semifluid materials, like foam or cement slurry, that are injected into the tank do a better job of filling than sand or gravel. DEQ generally discourages the use of gravel as fill because it does not prevent future use of the tank for disposal of hazardous liquids. Foam should not be used where there is high ground water, because it will not anchor the tank.

2. Dig the tank up and remove it.

DEQ recommends this as the best way to deal with an unused tank because:

$ You can find and clean up contamination from past leaking and spilling.

$ Your location can be documented as "clean" (see section entitled "Contamination").

$ Many buyers and lending institutions require the removal of unused tanks as a condition to a property transaction.

$ Some fire departments require unused tanks be removed where possible.

The tank should be pumped out and the inside cleaned before it is removed. There may be sludge left in the bottom of the tank after pumping which also needs to be removed. The sludge will vary in amounts from a trace to many gallons.

You must dispose of your unearthed tank properly. It cannot be illegally dumped, should not be stored at your residence, and must be cleaned before being recycled as scrap metal. If you intend to dispose of your cleaned tank intact, make sure there is a recycler or landfill in your area that will accept it.

Procuring Services

Many companies provide services for residential tanks, including pumping, cleaning, filling, removal, and disposal. Some provide all these services, some specialize in one or another.

Pumping

The heating oil left in unused tanks is considered waste oil, and the companies that sell and distribute heating oil usually will not pump it out or take it back. To find companies that will pump out your tank, look in the telephone directory yellow pages under "Oil-Waste" or "Recycling". Pumping is not the same as cleaning, and both may need to be done.

Costs

The cost of these services will vary depending on the size, location, accessibility and other special problems of your tank. Costs vary among companies performing the same services, too. The following are approximate cost guidelines:

Pumping (oil only): $0-$100. If your tank contains a lot of oil (200+ gallons) you may be able to find a company that will not charge for pumping.

Cleaning: $200-500

Filling: $300-1100 (type of fill material may affect cost)

Removal/Disposal: $400-2,000

You may be able to save money by having one company perform several services at one time. Or you may be able to negotiate a price break if several residences in the same neighborhood have services performed at the same time.

Companies that clean tanks and/or recycle waste oil always have to consider the possibility that there may be hazardous substances in the waste oil or sludge. They must include testing and handling costs when filling or removing a tank, and that affects your cost.

Doing it yourself

DEQ does not recommend removing a tank yourself because of the potential risk to life and the environment. However, with enough ambition and time, you could conceivably accomplish many of these tasks yourself.

A portable pump might be used to remove oil from a tank. The oil should be put into containers and recycled properly. Most counties and some larger municipalities have household hazardous waste collection days, or drop off stations that accept waste oil. Some waste recycling/disposal companies accept waste oil, but there may be a fee and probably a testing charge. There may be restrictions on the amount of material facilities will accept. Arrange a definite method of disposal before you pump the tank.

Warning: Working on an underground storage tank can be dangerous. Under certain conditions these tanks can explode. The excavation pit, handling of the heavy tank, and use of power equipment can also pose risks. Never enter an underground storage tank, even if it has been cut open.

Care should be used to reduce risks to life and the environment. Unless you have appropriate knowledge, experience, and training you should hire a qualified firm to perform this work.

You could conceivably fill an underground tank with an inert material, but cleaning it thoroughly in place is very difficult.

If you are able to dig up your tank, you will also need to remove any water that has collected in it. Even if a tank contains primarily water, it must be pumped out. Water pumped from an oil tank is contaminated, and must be treated like oil. See some of the disposal suggestions discussed earlier.

A tank must be "inerted" before any power or gas tools and equipment are used to cut or excavate it. Inerting means removing potentially explosive vapors from the tank. You can do this by placing crushed dry ice in the tank for at least one hour. Use one pound of dry ice per 50 gallons of tank size, which is about 7 pounds for an average residential tank. This is not a permanent procedure. When the dry ice is gone, vapors start building up again.

Disposing of an unearthed tank is often a problem. Arrange a definite method of disposal before you dig up the tank. Here are some possibilities:

- Some commercial tank companies will accept uncleaned residential tanks if you haul the tank to them - but make arrangements in advance and expect to pay a fee.
- Scrap metal dealers usually will not accept an intact tank without written documentation that the interior was cleaned.
- Hauling the tank to a landfill usually is not feasible because of the large size and/or cost, and recycling of the metal is preferable.
- Disposal or recycling is much easier if the tank is cut into small pieces. After the tank is cut open, the interior can be washed with soap. The rinsate and any sludge must be disposed of properly (see some of the disposal suggestions for oil as discussed earlier). Seek professional services if the tank appears to be very dirty or if materials other than oil are inside the tank.

  If you do haul your tank, you should inert it just prior to hauling.

Contamination

Contamination from residential heating oil tanks is of concern to owners, buyers, and lenders because of potential liability.

Under the Idaho Water Quality Standards and Wastewater Treatment Requirements, you must report to DEQ all releases of petroleum products which may pose a threat to human health and the environment. If the soil around the site of your removed tank is stained and smells strongly of oil, contact DEQ. Office locations and phone numbers are found at the end of this document.

If you want professional documentation that the site of your removed or filled-in-place tank is not contaminated, you can hire an environmental consultant to take soil samples for analysis. DEQ cannot perform this service for you. Consultants usually take at least two samples, one from beneath each end of the tank. These are analyzed for total petroleum hydrocarbons (TPH). The costs for

professional documentation and analysis vary widely. Look in the yellow pages under "Environmental Services", or call DEQ at 373-0502 for a list of people that do this type of work. Some companies that provide other tank services also provide this service.

If your heating oil tank is still in use

Many home heating oil tanks are 30-50 years old, and nearing (or past) the time when they will begin leaking. A small pinhole leak undetected over a long period of time can cause you major contamination and liability problems. Here are some tips for determining if your tank leaks:

- If your furnace seems to be using more fuel than usual, your heating oil tank may have developed a leak. (Consider other possible factors for variable fuel usage, such as unusual weather or furnace malfunction.)
- Is there water in your tank? Stick the tank, using water reactive paste on the stick, to find out. A small amount of water is normal, but several inches may mean water is getting in through a hole in the tank - which means oil could be getting out.
- During the summer, when you are not using the furnace, carefully measure and record the level of the fuel in the tank. Make sure the furnace (or any other appliance, such as a water heater) is completely off - you may even want to disable it to be sure it is not coming on. Wait as long as possible, keeping the furnace off (preferably at least two weeks, but the longer you wait, the smaller leak you will be able to detect), then measure the fuel again. If the level is down, the tank is probably leaking. If the level is up, you should check to see if water is entering the tank, as described earlier.
- Some companies will perform sophisticated leak detection tests at a cost of $300-500. Look in the yellow pages under "Tank Testing and Inspections", or call the State Fire Marshal at 334-4370 for a list of certified UST tank tightness testing technicians that conduct these tests. DEQ strongly recommends that you use a certified UST technician if you are having your heating oil tank tested.

Questions?

Call the nearest DEQ office (DEQ office locations and phone numbers are found at the end of this report) or your local fire department.

DEQ Regional Offices

Questions can be referred to the regional office responsible for activity in your county.

(1) Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene ID 83814
(208) 769-1422
FAX 769-1404

(2) Lewiston Regional Office
1118 F Street
Lewiston ID 83501
(208) 799-4370
FAX 799-3451

(3) Boise Regional Office
1445 N Orchard
Boise ID 83706-2239
(208) 373-0550
FAX 373-0287

(4) Twin Falls Regional Office
601 Pole Line Rd. Ste #2
Twin Falls ID 83303
(208) 736-2190
FAX 736-2194

(5) Pocatello Regional Office
444 Hospital Way #300
Pocatello ID 83201
(208) 236-6160
FAX 236-6168

(6) Idaho Falls Regional Office
900 N. Skyline Dr. Ste. B
Idaho Falls, ID 83402
(208) 528-2650
FAX 528-2695